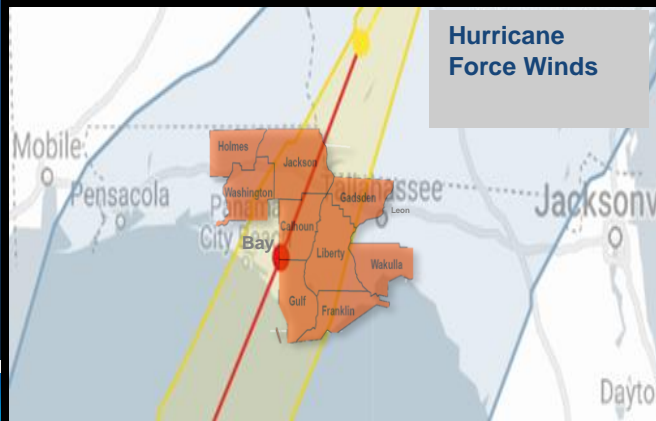


A map of the Gulf of Mexico and the southeastern United States serves as the background. It shows the path of Hurricane Michael, with a large red and orange area indicating the storm's impact zone centered over the Florida Panhandle. Labeled cities include Montgomery, Albany, Pensacola, Tallahassee, Panama City, Jacksonville, Tampa, Miami, and Nassau. The Gulf of Mexico is labeled in the bottom left.

# Hurricane Michael Response, Recovery, and Long-Term Planning

April 16, 2019

# Overview



Hurricane  
Force Winds

**Fiscally Constrained Counties** (marked in orange) receive **100%** federal reimbursement post-storm.

**Bay County** was the hardest hit by Hurricane Michael and is the **only** county in the impact area that **does not qualify** for **100%** reimbursement.

Where a storm hits can be just as impactful as the strength of the storm...

County/Storm	Annual Budget	Storm Impact per capita
Miami Dade County/ Hurricane Irma	\$7.4 billion	\$135
Bay County/ Hurricane Michael	\$362.2 million	\$3,647

## Bay County Activities to Date:

- Removed more than 8.5 million cubic yards of debris in unincorporated Bay County. More than 15.5 million cubic yards has been removed countywide (compared to the 2 million collected *statewide* during Irma)
- Received 45 days of 100-percent debris removal reimbursement, which will cover approximately \$85 million of an estimated \$350 million total cost of debris removal
- Have borrowed -- so far -- \$250 million to pay vendors with un-reimbursable interest of just over 3 percent after three years

## Total Estimated Bay County Damage – \$661 million

Bay County was forever changed by the magnitude of destruction brought by Hurricane Michael. As the population center of the region and ground zero for the storm's landfall, Bay County residents experienced the worst impacts of the **near-Category 5 storm**, and the fallout continues today:

- 25 deaths in Bay County
- 17 million cubic yards of debris in Bay County (out of the estimated 20 million cubic yards total across the impact zone)
- Estimated 20,000 residents were displaced immediately post-storm
- 13 percent of Bay County students never returned post-storm
- Three schools closed by county post-storm
- 69 percent of residential homes in Panama City alone were damaged
- Bay Medical Center forced to shrink to one quarter its previous size
- Panama City Mall closed
- More than 33,000 applicants for FEMA assistance in Bay County were denied
- \$3 billion in timber losses







# Response: Local and State Partners

## State:

- Emergency Management

## Local

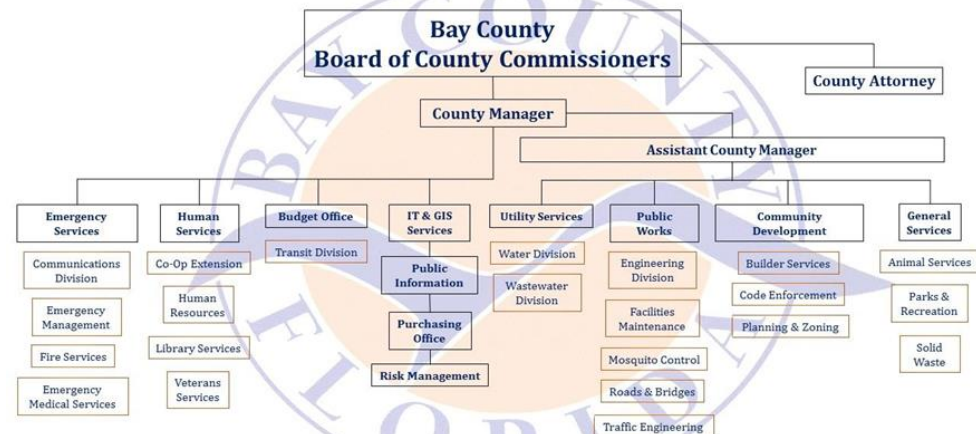
- Sheriff's Office
- Tax Collector
- Supervisor of Elections
- State Attorney's Office
- Property Appraiser
- Clerk of the Court
- Municipal Partners





# Emergency Services

- Bay County EOC activated on Oct. 8 and served as the central command and communication center for all critical local, state, and federal personnel.
- 21 Incident Management Teams assisted from Florida and eight other states.
- More than 750 personnel worked in the EOC daily during the first 30 days
- More than 2,500 first responders from Florida and other states; Fire/EMS & Law Enforcement
- Florida Water/Wastewater Agency Response Network
  - Over 400 utility workers along with equipment, tools, generators, pumps, pipes, and fittings deployed from throughout Florida to assist
- Tier 1/Tier 2 employees
- Lessons learned from prior events
- Divisions cross trained and assisted in immediate areas of need







# Fire/EMS

- Fire / EMS provided critical leadership personnel to staff the primary Incident Management Team including Operations Section Chiefs and Logistics Section Chiefs.
- Bay County Fire Rescue Officers coordinated deployment of all fire-based mutual aid resources, including urban search.
- EMS Officers coordinated deployment of all advanced life support resources including ambulances and field hospitals for the entirety of the mission.
- Over a three-day time period Bay County Fire Rescue and EMS responded to 721 emergencies based on 911 call demands. This represents a 250-percent increase in responses over the same period last year.
- The Communications section provided critical guidance to hundreds of callers throughout the event, including missing persons and the very difficult time period when first responders were unable to attend specific emergencies due to Category 5 winds and significant storm surge.
- During the same time period, Fire Rescue and EMS handled multiple special assignments concerning immediate issues ranging from highly complex infrastructure repair and debris removal to message runners.
- All Fire and EMS Stations suffered damage, ranging from minor to catastrophic with two county stations completely destroyed.
- EMS searched and cleared homes and responded to medical emergencies.
- Established and maintained shelters.





# Community Development

- Builder's Services opened in temporary tents outside Government Center on Oct. 15.
  - Moved back in Government Center on Oct. 22.
  - State allowed general, residential, and building contractors to perform roof replacements.
- Code Enforcement Division temporarily reassigned and phasing back in over the year, facilitating FEMA trailers and personal property debris removal.
- Relaxed code to temporarily allow trailers on property while citizens recover; still looking at other temporary options to assist in recovery.





# Response: Utilities - Water

- First Priority - Reestablish Water Services
  - Water treatment plant (WTP) and pump stations sustained substantial damage.
  - 36 Hours – WTP treating water and filling water storage tanks.
  - Day 3 (10-13-18) – Energizing wholesale water lines.
  - Days 4-6 – Most cities taking water and repairing leaks.
  - Day 7 – Boil water rescinded for wholesale system.
  - Day 11 – Boil water rescinded for all Bay County retail and PC Beach.
  - Day 12 – Boil water rescinded for Lynn Haven.
  - Day 14 – Boil water rescinded for Panama City.
  - Day 16 – Boil water rescinded for Callaway.
  - Day 17 – Boil water rescinded for Parker.
  - Day 18 – Boil water rescinded for Springfield.

Took up to two weeks for rescission due to lag time of water quality tests.





# Response: Utilities - Wastewater

- Military Point Advanced Wastewater Treatment Plant (AWT)
  - Wastewater plant for Bay County, Springfield, Callaway, Parker, Tyndall AFB, and Mexico Beach.
  - Located on Tyndall AFB.
  - Severely damaged and accessible only by helicopter.
  - Utilities re-established flow within 36 hours, with help from Bay County Fire, their metal cutting equipment, and a few helicopters







# Public Works

## Roads and Bridges and Engineering:

- Worked with National Guard, U.S. Forestry, and county contractors to clear all Bay County-owned roadways within seven days.
- Cleared routes from Bay Medical Hospital to expedite patient evacuations.
- Provided site preparation for base camps.
- Clearing county owned-stormwater systems.
- Repairing right-of-way shoulders.
- Removing illegally placed debris from roadways. Inspected 51 county bridges to ensure structural integrity.
- Coordinated cleaning of stormwater debris and demolition permitting of county assets.





# Public Works

## Facilities:

- Performed damage assessment and initiated remediation work at 110 sites. Sites included county jail, courthouse, Government Center, District Attorney's Office, and the county library. County facility damages exceed \$60 million.
- Coordinating final repairs to above county facilities damaged by the storm.
- Staff provided assistance to first responder staging sites.
- Assisted in finding temporary sites for displaced staff.
- Constructing temporary / permanent staff locations within Government Center.







# Public Works

## Traffic Engineering:

- Completed Type 1 repairs to State 77 and Tyndall Parkway.
- Retimed signals on State 79, Back Beach Road, U.S. 98, 23<sup>rd</sup> Street, State 77, and State 390 by hand to help restore stable traffic flow.
- Restored fiber optic communications to law enforcement and the EOC.
- Coordinating with FDOT to restore final repairs to traffic signals throughout Bay County.
- Repairing county's 23,000 traffic signs.
- Completing non-federal highway traffic signal repairs.







# Public Works

## Mosquito Control:

- Sprayed all first responder sites each night for 10 days after the storm.
- Provided Larvacide and spraying in Mexico Beach each night for seven nights after the storm.
- Worked with state to coordinate countywide aerial spray that occurred Oct. 21 and 22.
- Repairing shop and providing site Larvacide treatments daily.





# Parks & Recreation

- Community Parks – 18 total / 14 damaged
- Athletic Parks – 11 total / 10 damaged
- Beach Access – 46 total / 22 damaged
- Playgrounds – 14 total / 6 damaged
- Dog Parks – 2 total / 2 damaged
- Boat Ramps – 21 total / 15 damaged
- Kayak/Small Craft Launch – 10 total / 3 damaged
- Community Buildings – 4 total / 4 damaged
- 126 sites total / 76 damaged from Hurricane Michael (60 percent)
- Estimated damages – more than \$10 Million







# Animal Control

- Opened 3- evacuation shelters all pet friendly; maintained over 500 animals
- Animal control facility maintained 130 animals
- Facilitated recovery of approximately 500 animals
- ASPCA hotline managed emergency calls
- SART & The ASPCA set up at the Humane Society to temporarily house stray and loose animals
- Additional staff came from the ASPCA, Pinellas County Animal Control, Delta Force Rescue & Recovery
- Local employees from Operation Spay Bay were hired as temps by the ASPCA to assist with Animal Control Operations







# Solid Waste

## Storm Debris Totals as of March 7, 2019

<b>BAY</b>	<i>County</i>	7,472,508
	<i>Mexico Beach</i>	711,676
	<i>Panama City</i>	2,956,698
	<i>Callaway</i>	855,666
	<i>Springfield</i>	605,493
	<i>Lynn Haven</i>	1,219,525
	<i>Parker</i>	510,071
	<i>Panama City Beach</i>	29,952
		<b>14,361,589</b>

- Unincorporated County 7.4 M CY of Debris
  - 6.2M CY Vegetative
  - 1.2M CY C&D
- All of Bay County including cities 14.36M CY
- All Florida Counties storm debris totals 29M CY
- At times, we had over 300 trucks working on debris pickup in the unincorporated county alone.
- In 3-months, the landfill received 225,000 tons of debris
  - This is 1.7 times the normal yearly average.
- We received approximately 200 boats from the salvage operations.





## Public Information Office

The EOC communications team:

- Organized dozens of media interviews/press conferences throughout the event.
- Issued dozens of AlertBay and WEA notifications.
- Flew banner planes with emergency information.
- Monitored and maintained social media channels, growing Facebook followers from 13,572 on Oct. 5 to 39,157 on April 15.
- Established the 211 Citizen Hotline.
- Created [recoverbaycounty.com](http://recoverbaycounty.com).
- Provided daily updates to media and public.
- Printed and passed out more than 60,000 flyers.
- Assisted the state and federal government in outreach efforts (DSNAP, DRCs, PODs).





# Purchasing

- Purchasing was stationed at the EOC and assisted with state and local purchases and logistics.
- Four staff members provided 24-hour EOC coverage in the weeks following the storm.
- Emergency purchase orders and contracts were developed and distributed with limited communications.
- Purchasing facilitated repairs of the 9<sup>th</sup> Street fuel island after complete loss.
- 25 recovery-related formal solicitations issued to date, more anticipated.
- 238 recovery-related purchase orders issued to date, more anticipated.





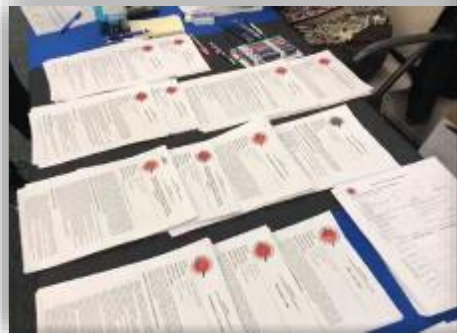


# Human Resources

- Provided contact information for local disaster assistance resources and a post-Hurricane Michael fact sheet for all county employees.
- Coordinated temporary accommodations for more than 70 county employees at designated condos in Panama City Beach.
- Ongoing review and audit of 214 forms for accuracy prior to submitting to CDR Maguire.
- Developed, deployed, and aggregated the Employee Hurricane Damage Survey for Bay County Employee Care, Inc., a nonprofit that led to employees receiving more than \$80,000 in assistance.
- Designed and hosted the county's first on-site job fair, resulting in 16 on-site conditional job offers and 12 new hires.
- Coordinated the set up of the Volunteer Recruitment Center in the Southport Community Building.



- Facilitation of temporary employment, including the current request for 50-plus temporary workers funded by a grant through Career Source.
- Ongoing promotion of Employee Assistance Program (EAP) for hurricane-related emotional support (stress, anxiety, trauma, and grief).



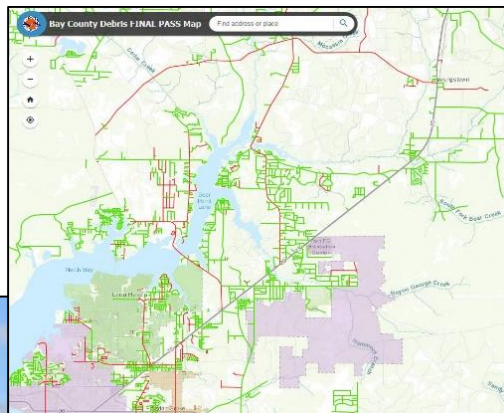


# Recovery & Response: IT & GIS



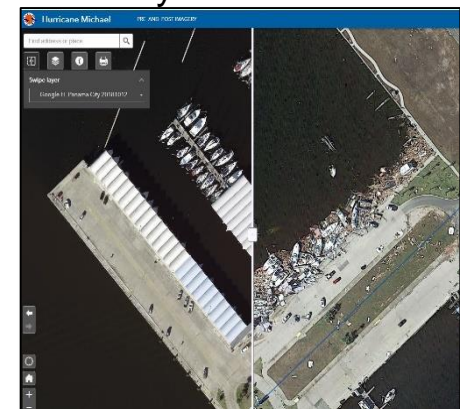
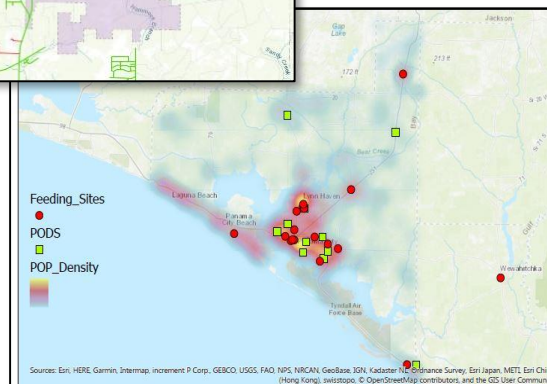
Worked with National Guard, Cisco TacOps, and ITDRC to restore communications to county offices and surrounding municipalities.

Deployed temporary mobile communications for first responders.



## Maps & Apps

- Search & Recovery
- Before & After Imagery Swipe App
- Basecamps & Shelters
- Debris Final Pass
- Disaster Recovery Sites / PODS







# Library

- Library staff managed the Volunteer Reception Center, created to direct volunteer efforts to where they were most needed.
- A librarian was embedded in the Public Information Office team to research questions and provide accurate data to the public.
- Staff provided support at the EOC, the Arnold High School shelter, and at one of many feeding and comfort stations.
- Libraries opened as soon as possible to provide access to computers and internet so people could complete FEMA and insurance paperwork, borrow books, and attend programs for entertainment. (Prior to opening to the public the Bay County Public Library distributed more than 4,500 donated books to people using the FEMA Disaster Recovery Center operating out of the library meeting room.
- Copies, printouts, and faxing were provided at no cost through the end of January.



Thank you VOLUNTEERS for helping Bay County recover!



Interested in volunteering? Visit:  
Volunteer Reception Center  
Bay County Public Library  
898 W. 11th St., Panama City FL 32401  
Tuesday - Saturday (10 am - 4 pm)







# Risk Management

- Risk Management staff was available 24/7 at the EOC, compiling initial hurricane property damage assessments based on information coming into the EOC and promptly reporting losses to insurance carriers.
- Risk escorted adjusters to damaged sites throughout the county, with a team of more than 15, to include building, HVAC and equipment adjusters, consultants, hygienists, and forensic accountants.
- Risk Management staff continues to handle scores of claims, from both the county and the general public related to Hurricane Michael.





# Cooperative Extension

- Delivered more than 2,500 pounds of peanut butter and relief supplies to six local recovery centers and food banks.
- Provided a Rapid Assessment Coastal Community Damage Report with a map and linked photos to NOAA economists in charge of Hurricane Michael “Fishery Disaster” funding.
- Collaborated with others to obtain the 140-foot El Dorado vessel scheduled for scrapping to be used as an artificial reef.
- Partnered with LIAF Certified Arborists offering free digital assessments of trees beginning Oct. 25, 2018. The link was shared via Facebook, email and telephone.
- Offered a 4-part Landscape Recovery Series. First three seminars reached more than 300 people, and 100-plus attendees received free trees donated by FNGLA. Recordings are available online.







# Response: Budget

**Bay County Hurricane Michael Damage Inventory = \$661 million**

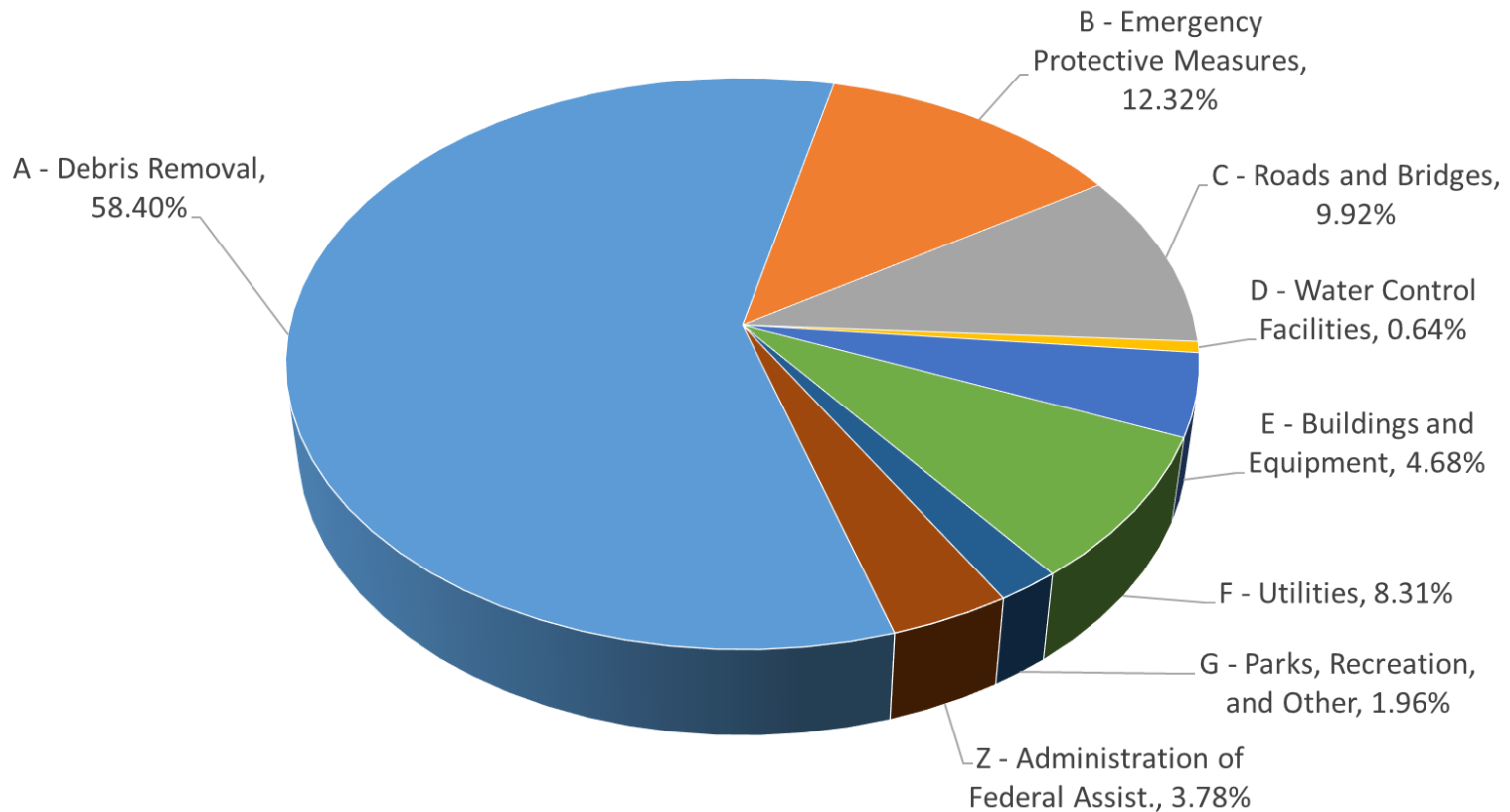
Funding Date	Amount	Bank
November-18	\$ 50,000,000	SunTrust
February-19	\$ 100,000,000	SunTrust
April-19	\$ 100,000,000	PNC
	<u>\$ 250,000,000</u>	

	Payments	P.O.s	Debris invoices not paid	Total to Date
FEMA A - DEBRIS REMOVAL	\$ 86,115,525.18	\$ 152,984.44	\$ 20,112,823.95	\$ 106,381,333.57
FEMA B - EMERG PRTV MSRS	\$ 13,596,930.76	\$ 10,012,975.38	\$ -	\$ 23,609,906.14
FEMA C - ROADS & BRIDGES	\$ 25,585.27	\$ -	\$ -	\$ 25,585.27
FEMA D - WATER CNTRL FAC	\$ 94.00	\$ -	\$ -	\$ 94.00
FEMA E - BLDGS & EQUIP OP	\$ 753,183.95	\$ 198,858.33	\$ -	\$ 952,042.28
FEMA F - UTILITES	\$ -	\$ -	\$ -	\$ -
FEMA G - PARKS & REC, OTHER	\$ -	\$ -	\$ -	\$ -
Disaster O/T	\$ 3,697,946.07	\$ -	\$ -	\$ 3,697,946.07
	<u>\$ 104,189,265.23</u>	<u>\$ 10,364,818.15</u>	<u>\$ 20,112,823.95</u>	<u>\$ 134,666,907.33</u>



# Response: Budget

## Bay County Damage Inventory by Category







# Response: Budget

## Relative Comparison, Miami-Dade (Hurricane Irma)

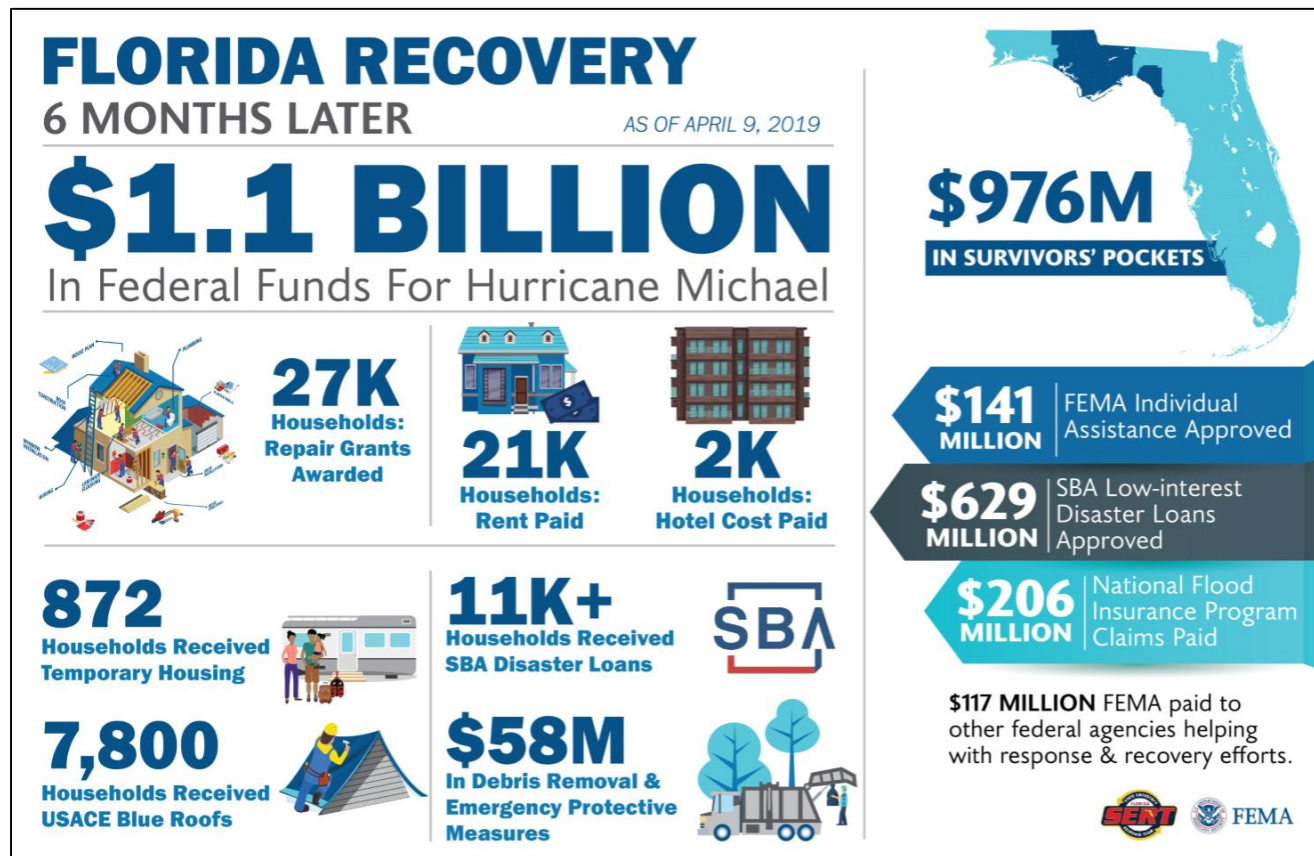
	Damage Inventory	Population	Taxable Value	Budget
<b>MIAMI-DADE</b>	\$ 372,000,000	2,743,095	\$ 272,431,699,283	\$ 7,411,706,000
		\$ 135.61	0.14%	5.02%
<b>BAY COUNTY</b>	\$ 661,000,000	181,199	\$ 16,433,018,703	\$ 326,279,634
		\$ 3,647.92	4.02%	202.59%



# Response: Federal Partners

FEMA:

- General
- Housing/MH/Trailers
- TSA







# Long Term Recovery Task Force



Learn more and submit projects and ideas at <http://recoverbaycounty.com/>



# Q & A